

**ABSTRACT**

A process for the preparation of a synthesis gas containing  
5 hydrogen and carbon monoxide by a combination of catalytic  
partial oxidation and further an autothermal reforming pro-  
cess, comprising  
  
(a) providing separate streams of predetermined propor-  
tions of a hydrocarbon feedstock, an oxygen source and of  
10 process steam,  
  
(b) injecting said separate streams into a catalytic par-  
tial oxidation reaction zone to react, and to form a prere-  
formed product stream,  
  
(c) introducing the prereformed product and a predeter-  
15 mined proportion of a second oxygen source into a further  
partial oxidation process step forming a further partially  
oxidised process stream by flame reactions,  
  
(d) reacting the further partially oxidised process stream  
in the reaction zone constituting a steam reforming process  
20 step to form a synthesis gas product stream, and  
  
(e) withdrawing the synthesis gas product stream from the  
further partial oxidation process step and the steam re-  
forming process step, the two steps constituting the auto-  
thermal reforming process.